Records of larvae of *Eupithecia lentiscata* Mabille, 1869 on Sardinia (Geometridae)

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Abstract. The first record of the little known *Eupithecia lentiscata* Mabille, 1869 on Sardinia is reported. Two forms of the larva, the adult moth, and the habitat are illustrated, and the breeding method and wing pattern characters of the moth are described. Remarks on three other geometrid species found in the same habitat are added.

Zusammenfassung. Es wird über den Erstnachweis der wenig bekannten *Eupithecia lentiscata* Mabille, 1869 auf Sardinien berichtet. Zwei Raupenformen, Falter und Lebensraum werden abgebildet, der Zuchtverlauf und typische Merkmale des Falters beschrieben. Bemerkungen über drei Begleitarten ergänzen die Arbeit.

The Mediterranean *Eupithecia lentiscata* Mabille, 1869 is one of the geometrid species that has been most rarely recorded since it was discovered on Corsica. This is probably caused by the unusual flying time for a *Eupithecia* species, which is in the middle of the winter. Mironov (2003) mentions the adults flying from January to early March.
In their checklist Raineri & Zangheri (1995) did not record this species from Italy, so the records from Corsica were the only known ones for a very long time (Müller 1996). In 2002 the species was found for the first time in Italy by the record of one caterpillar on Sardinia (8 km E of Porto Tórres, Platamona Lido, 5 m, 10. iv. 2002, Peder Skou leg.). This record was included in Mironov (2003) along with that of one specimen from Monemvasia on the southern end of the Peloponnes peninsular in Greece.
During a collecting trip from 4th to 18th April 2007 on Costa Smeralda, Sardinia, three fully grown larvae of *Eupithecia lentiscata* were found by Golfo Aranci (6. iv. 2007, Bernd Müller leg.).
The literature mentioned that *Eupithecia lentiscata* feeds on the inflorescences of the mastic tree, *Pistacia lentiscus* (Anacardiaceae) (Mabille 1869, 1872; Dietze 1910, 1913; Mironov 2003). We obtained caterpillars by carefully beating the inflorescences over an umbrella. The caterpillars fed only on the flowers and pupated after just a few days in the breeding case in a cocoon between remains of the food. The pupae were taken out of these and placed between pieces of tissue in a pupae box. There they spent the summer and the following winter, and were sprayed with water only now and then. In order to imitate the mild winter climate on the coasts of Sardinia, the pupae box was kept under cool conditions, but not below -2 °C. All four pupae hatched as adult moths in late January 2003 (1 female) and on 21, 25 and 26 January 2008 (1 crippled male and 2 well developed females, Fig. 1).
Further beating for caterpillars of *E. lentiscata* at other localities of Costa Smeralda in 2007 was negative, but resulted in caterpillars of the Geometridae species *Colotois pennaria* (Linnaeus, 1761), *Agriopis bajaria* (Denis & Schiffermüller, 1775), and *A. marginaria* (Fabricius, 1776). Until their pupation the larvae of these three spe-

Fig. 1. Female of *Eupithecia lentiscata* Mabille, 1869. Sardinia. Golfo Aranci. Forewing length 10.5 mm, wingspan 18 mm.

cies were fed with flowers of *Pistacia lentiscus*, which appear to be a little known food-plant for the three species since Flamigni et al. (2007) only mention it for *A. bajaria*. During our search for caterpillars of *E. lentiscata* we noted that only a small proportion of the food-plants were flowering, i.e. only less than 10 % of the total number of plants.

The larva of *E. lentiscata* is very variable and occurs in two main forms, a green and a red one. Dietze (1910) shows on his excellent colour plates two green and one red form, that all differ a little in detail from the caterpillars from Sardinia (triangular spots less red-brown filled). Figure 2 shows a green caterpillar with a red-brown line on the back and red-brown filled triangular spots, that are pointing forwards. Figure 3 shows a reddish caterpillar with a similar red-brown pattern on the back. Both forms are very well camouflaged among the flowers of the food-plant.

There is hardly any material of *Eupithecia lentiscata* in public or private collections, and Mironov (2003) could only illustrate two males on his colour plates, including the holotype of the species, that was previously used by Dietze (1910) for his somewhat dark illustration. The material available now, i.e. the three females from Sardinia, resemble the holotype with a rather weak and poorly contrasting wing pattern. As in many *Eupithecia* species, the newly emerged adults are rather grey in their ground colour. Even if the specimens are kept in complete darkness, this colour slowly changes over decades to more brownish as can be seen on the nearly 140 years old holotype on the colour plate by Mironov (2003). However, two elements of the wing pattern are more or less visible on all specimens: Firstly, the narrow medial transverse line running through the discal spot and, secondly, the nearly right-angled dark area between cubital vein CuA2 and the inner margin on the forewing between the wavy line and the subterminal line, which is clearly visible on the specimen in Fig. 1. Apart from this the species seems to be somewhat variable in the distinctness of the wing pattern, and there may be a slight sexual dimorphism.

The habitat at Golfo Aranci is a coastal maquis with numerous *Pistacia lentiscus* on a hill of about 50 m in elevation (Fig. 4). It was surprising to find that the caterpillars were found on a sun exposed, but rather windy hill. No caterpillars were observed on the more shaded and moist parts of the hill. The habitat near Platamona Lido (Fig. 5) is a costal dune area overgrown with herbaceous plants, trees, and bushes of which *Pinus* spp. (Pinaceae)and *Juniperus oxycedrus* L. (Cupressaceae) were the dominant species. There were rather few *P. lentiscus* bushes, and the only one with flowers, where the caterpillar was found, was growing on the south side of the locality, exposed to the sun and rather protected against the wind.

Figs 2–3. Larva of *Eupithecia lentiscata* Mabille, 1869. **2.** Green form. **3.** Reddish form.

Figs 4–5. Habitat of *Eupithecia lentiscata* Mabille, 1869. **4.** Near Golfo Aranci, Sardinia. **5.** Near Porto Tórres, Platamona Lido, Sardinia.

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